

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. (Previously Presented) A method comprising:
causing a debugger agent to select a debugger program, wherein
 - the debugger agent is executed on a test server,
 - the debugger program is one of a plurality of debugger programs,
 - the debugger agent is configured to select the debugger program from the plurality of debugger programs,
 - each of the plurality of debugger programs is one of a plurality of platform-specific debugger programs,
 - each of the plurality of platform-specific debugger programs is compatible with at least one of a plurality of computing environments,
 - the debugger program is suitable for at least one device under test of a plurality of devices under test, by virtue of the debugger program being a platform-specific debugger program compatible with a computing environment of the at least one device under test,
 - and

the at least one device under test is configured to execute a program under test; causing the debugger agent to download the debugger program from the test server to the at least one device under test;

configuring the debugger program to operate in a debugging mode, wherein
 - the debugging mode is one of
 - an automatic debugging mode, and
 - a manual debugging mode;

sending a plurality of test commands, wherein
 - the test commands are sent from the test server to the at least one device under test, and
 - the test commands are sent according to a test script; and

activating the debugger program when a watched event occurs during execution of the program under test, wherein
in response to the activating the debugger program, the debugger program is configured to automatically execute at least one debugging command, if the debugger program is configured to operate in the automatic debugging mode, and
allow the at least one device under test to be controlled via the debugger agent, if the debugger program is configured to operate in the manual debugging mode, and
the at least one debugging command is configured to cause information regarding the execution of the program under test to be recorded.

2. (Previously Presented) The method of claim 1 further comprising:
determining if the debugger program is configured to operate in the automatic debugging mode; and
if the debugger program is operating in the automatic debugging mode,
directing a debugger command to the debugger program; and
recording information provided by the debugger program according to the debugger command.
3. (Previously Presented) The method of claim 1 further comprising:
determining if the debugger program is configured to operate in the manual debugging mode; and
if the debugger is operating in the manual debugging mode,
pausing execution of the program under test; and
allowing a user to control the debugger program.
4. (Previously Presented) The method of claim 1 further comprising:
invoking the debugger program while specifying the program under test as a target of the debugger program.

5. (Previously Presented) The method of claim 1 further comprising:
instructing the debugger program to associate itself with a process executing on the at least one device under test, wherein the process corresponds to the program under test.
6. (Previously Presented) The method of claim 1 further comprising:
sending a command to the debugger program, wherein the command performs at least one of:
setting a breakpoint in the program under test;
setting a watchpoint in the program under test;
setting a catchpoint in the program under test; and
setting a tracepoint in the program under test.
7. (Previously Presented) The method of claim 1 wherein the watched event comprises at least one of:
a processor exception;
a program under test error;
reaching a breakpoint in the program under test;
reaching a watchpoint in the program under test;
reaching a catchpoint in the program under test; and
reaching a tracepoint in the program under test.
8. (Cancelled)
9. (Previously Presented) The method of claim 1 further comprising:
loading, into the at least one device under test, a symbol file corresponding to the program under test.
10. (Previously Presented) A system comprising:
a memory;
a processor coupled to the memory; and
a debugger agent, wherein

at least a portion of the debugger agent is encoded as instructions stored in the memory and executable on the processor,

the debugger agent is configured to be executed on a test server, and
the debugger agent is configured to

select a debugger program, wherein

the debugger program is one of a plurality of debugger programs,
each of the plurality of debugger programs is one of a plurality of
platform-specific debugger programs,
each of the plurality of platform-specific debugger programs is
compatible with at least one of a plurality of computing
environments,

the debugger program is suitable for at least one device under test
of a plurality of devices under test, by virtue of the
debugger program being a platform-specific debugger
program compatible with a computing environment of the
at least one device under test,

the at least one device under test is configured to execute a
program under test, and

the debugger agent is further configured to select the debugger
program from the plurality of debugger programs,

cause the debugger program to be downloaded from the test server to the
at least one device under test,

configure the debugger program to operate in a debugging mode, wherein
the debugging mode is one of

an automatic debugging mode, and
a manual debugging mode;

send a plurality of test commands, wherein

the test commands are sent from the test server to the at least one
device under test, and

the test commands are sent according to a test script, and
activate the debugger program when a watched event occurs during
execution of the program under test, wherein

in response to the activating the debugger program, the debugger program is configured to automatically execute at least one debugging command, if the debugger program is configured to operate in the automatic debugging mode, and allow the at least one device under test to be controlled via the debugger agent, if the debugger program is configured to operate in the manual debugging mode, and the at least one debugging command is configured to cause information regarding the execution of the program under test to be recorded.

11. (Original) The system of claim 10 further comprising at least one debugger program stored in at least one of the memory and a storage device accessible by the processor.
12. (Original) The system of claim 10 further comprising at least one symbol file stored in at least one of the memory and a storage device accessible by the processor.
13. (Original) The system of claim 10 further comprising:
a test script handler, wherein at least a portion of the test script handler is encoded as instructions stored in the memory and executable on the processor.
14. (Original) The system of claim 13 wherein the test script handler is further configured to send the plurality of test commands to the debugger agent.
15. (Original) The system of claim 10 further comprising:
a second memory;
a second processor coupled to the second memory; and
a test script handler, wherein at least a portion of the test script handler is encoded as instructions stored in the second memory and executable on the second processor.

16. (Original) The system of claim 15 wherein the test script handler is further configured to send the plurality of test commands to the debugger agent.

17. (Currently Amended) The system of claim 10 wherein the debugger agent is further configured to:

determining determine if the debugger program is configured to operate in the automatic debugging mode; and
if the debugger program is operating in the automatic debugging mode,
direct a debugger program command to the debugger program; and
record information provided by the debugger program according to the debugger command.

18. (Currently Amended) The system of claim 10 wherein the debugger agent is further configured to:

determining determine if the debugger program is configured to operate in the manual debugging mode; and
if the debugger is operating in the manual debugging mode,
suspend execution of the program under test; and
allow a user to control the debugger program.

19. (Original) The system of claim 10 wherein the debugger agent is further configured to: invoke the debugger program while specifying the program under test as a target of the debugger program.

20. (Previously Presented) The system of claim 10 wherein the debugger agent is further configured to:

command the debugger program to associate itself with a process executing on the at least one device under test, wherein the process corresponds to the program under test.

21. (Previously Presented) The system of claim 10 wherein the debugger agent is further configured to:

send a command to the debugger program, wherein the command performs at least one of:
setting a breakpoint in the program under test;
setting a watchpoint in the program under test;
setting a catchpoint in the program under test; and
setting a tracepoint in the program under test.

22. (Previously Presented) The system of claim 10 wherein the watched event comprises at least one of a processor exception, a program under test error, reaching a breakpoint in the program under test, reaching a watchpoint in the program under test, reaching a catchpoint in the program under test, and reaching a tracepoint in the program under test.

23. (Cancelled)

24. (Previously Presented) The system of claim 10 wherein the debugger agent is further configured to:

load, into the at least one device under test, a symbol file corresponding to the program under test.

25. (Previously Presented) A computer readable storage medium comprising program instructions executable on a processor, the computer readable storage medium encoding the program instructions, wherein the program instructions are configured to implement each of:

causing a debugger agent to select a debugger program, wherein

the debugger agent is configured to be executed on a test server,

the debugger program is one of a plurality of debugger programs,

the debugger agent is configured to select the debugger program from the plurality of debugger programs,

each of the plurality of debugger programs is one of a plurality of platform-specific debugger programs,

each of the plurality of platform-specific debugger programs is compatible with at least one of a plurality of computing environments,

the debugger program is suitable for at least one device under test of a plurality of devices under test, by virtue of the debugger program being a platform-specific debugger program compatible with a computing environment of the at least one device under test, and

the at least one device under test is configured to execute a program under test;

causing the debugger agent to download the debugger program from the test server to the at least one device under test;

configuring the debugger program to operate in a debugging mode, wherein

the debugging mode is one of

an automatic debugging mode, and

a manual debugging mode;

sending a plurality of test commands, wherein

the test commands are sent from the test server to the at least one device under test, and

the test commands are sent according to a test script; and

activating the debugger program when a watched event occurs during execution of the program under test, wherein

in response to the activating the debugger program, the debugger program is configured to

automatically execute at least one debugging command, if the debugger program is configured to operate in the automatic debugging mode, and

allow the at least one device under test to be controlled via the debugger agent, if the debugger program is configured to operate in the manual debugging mode, and

the at least one debugging command is configured to cause information regarding the execution of the program under test to be recorded.

26. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement each of:

determining if the debugger program is configured to operate in the automatic debugging mode; and

if the debugger program is operating in the automatic debugging mode,

directing a debugger command to the debugger program; and

recording information provided by the debugger program according to the debugger command.

27. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement each of:

determining if the debugger program is configured to operate in the manual debugging mode; and

if the debugger is operating in the manual debugging mode,

pausing execution of the program under test; and

allowing a user to control the debugger program.

28. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement:

invoking the debugger program while specifying the program under test as a target of the debugger program.

29. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement:

instructing the debugger program to associate itself with a process executing on the at least one device under test, wherein the process corresponds to the program under test.

30. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement:

sending a command to the debugger program, wherein the command performs at least one of :

- setting a breakpoint in the program under test;
- setting a watchpoint in the program under test;
- setting a catchpoint in the program under test; and
- setting a tracepoint in the program under test.

31. (Previously Presented) The computer readable storage medium of claim 25 wherein the watched event comprises at least one of a processor exception, a program under test error, reaching a breakpoint in the program under test, reaching a watchpoint in the program under test, reaching a catchpoint in the program under test, and reaching a tracepoint in the program under test.

32. (Cancelled)

33. (Previously Presented) The computer readable storage medium of claim 25 further comprising program instructions operable to implement:

loading, into the at least one device under test, a symbol file corresponding to the program under test.

34. **(Currently Amended)** An apparatus comprising:
means for selecting a debugger program, wherein
the means for selecting is comprised in a test server,
the debugger program is one of a plurality of debugger programs,
the means for selecting is configured to select the debugger program from the
plurality of debugger programs,
each of the plurality of debugger programs is one of a plurality of platform-
specific debugger programs,
each of the plurality of platform-specific debugger programs is compatible with at
least one of a plurality of computing environments,
the debugger program is suitable for at least one device under test of a plurality of
devices under test, by virtue of the debugger program being a platform-
specific debugger program compatible with a computing environment of
the at least one device under test[[,]];
means for causing the debugger program to be downloaded from the test server to the at
least one device under test, wherein
the at least one device under test is configured to execute a program under test;
means for configuring the debugger program to operate in a debugging mode, wherein
the debugging mode is one of
an automatic debugging mode, and
a manual debugging mode;
means for sending a plurality of test commands, wherein
the means for sending is configured to send the test commands from the test
server to the at least one device under test, and
the means for sending is further configured to send the test commands according
to a test script; and
means for activating the debugger program when a watched event occurs during
execution of the program under test, wherein
responsive to the means for activating the debugger program, the debugger
program is configured to

automatically execute at least one debugging command, if the debugger program is configured to operate in the automatic debugging mode, and

allow the at least one device under test to be controlled via the debugger agent, if the debugger program is configured to operate in the manual debugging mode, and

the at least one debugging command is configured to cause information regarding the execution of the program under test to be recorded.

35. (Previously Presented) The apparatus of claim 34 further comprising:
 - a means for determining if the debugger program is configured to operate in the automatic debugging mode; and
 - if the debugger program is operating in the automatic debugging mode,
 - a means for directing an instruction to the debugger program during execution of a program under test; and
 - a means for recording information provided by the debugger program during execution of a program under test.
36. (Previously Presented) The apparatus of claim 34 further comprising:
 - a means for determining if the debugger program is configured to operate in the manual debugging mode; and
 - if the debugger is operating in the manual debugging mode,
 - a means for pausing execution of the program under test; and
 - a means for allowing a user to control the debugger program during execution of a program under test.
37. (Previously Presented) The apparatus of claim 34 further comprising:
 - a means for instructing the debugger program during execution of a program under test to associate itself with a process executing on the at least one device under test, wherein the process corresponds to the program under test.

38. (Previously Presented) The apparatus of claim 34 further comprising:
a means for sending a command to the debugger program during execution of a program
under test, wherein the command performs at least one of :
setting a breakpoint in the program under test;
setting a watchpoint in the program under test;
setting a catchpoint in the program under test; and
setting a tracepoint in the program under test.

39. (Previously Presented) The apparatus of claim 34 wherein the watched event comprises
at least one of a processor exception, a program under test error, reaching a breakpoint in the
program under test, reaching a watchpoint in the program under test, reaching a catchpoint in the
program under test, and reaching a tracepoint in the program under test.

40. (Previously Presented) The method of claim 1 further comprising:
causing the debugger agent to download a plurality of debugger programs from
the test server into a plurality of devices under test.